

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Old American Zinc - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region V

**Subject:** POLREP #2  
On-going Removal Operations  
Old American Zinc  
B5A1  
Fairmont City, IL  
Latitude: 38.6489584 Longitude: -90.0932582

**To:** Doug Ballotti, USEPA  
Sam Borries, U.S. EPA  
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**From:** Kevin Turner, OSC

**Date:** 7/23/2018

**Reporting Period:** 6/20/2018 – 7/20/2018

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	B5A1	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	5/10/2018
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Time-Critical
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	6/6/2018	<b>Start Date:</b>	6/11/2018
<b>Demob Date:</b>		<b>Completion Date:</b>	
<b>CERCLIS ID:</b>	IL0000034355	<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

Time critical removal action of heavy metals from historic zinc smelting operations by Old American Zinc. Based on subsequent soil data collected in July and August 2017 in support of the Remedial Design, it has been determined that continued removal actions are necessary at the Site to mitigate threats to public health, welfare, and the environment posed by the release and/or threatened release of hazardous substances from the Site.

#### 1.1.2 Site Description

The Old American Zinc (OAZ) site consists of two parts: a 132-acre industrial property and an unknown number of residential and commercial/industrial properties surrounding the industrial property.

There are residential areas approximately one city block north and west of the property, and industrial sites to the south and east. The property is bordered by Maryland Ave on the north, Kingshighway on the east, 45th Street on the west, and Rose Creek and the railroad tracks of the Penn Central and Baltimore & Ohio lines on the south. Rail car loading and unloading facilities border the property on the south. After flowing south between the eastern edge of the industrial property and Kingshighway, Rose Creek cuts southwest across the property to the southern edge, then westward off site, and eventually into a wetland north of Collinsville Road. The zinc furnace operations ceased in 1953, with subsequent operations limited to roasting ores for other smelter facilities and the production of sulfuric acid. These roasting operations continued until 1967 when American Zinc discontinued all operations. Based on aerial photographs, all buildings and other facilities associated with former smelting operations were razed between 1967 and 1978.

Except for three large slag piles and ditch-like Rose Creek, most of the industrial property is flat. All of the Old American Zinc buildings have been demolished and only their foundations can now be seen in many locations around the property. The property is almost entirely covered with a layer of dark brown to black slag, a waste product of the smelting furnaces. Crushed limestone has been placed over the slag in many locations to construct roadways and parking areas. Sparse vegetation over most of the property consists mainly of moss patches, but wetland plants grow along the course of Rose Creek and in a poorly-drained low-lying area of approximately 3 to 4 acres located in the southeastern corner of the property.

The property is entirely fenced with access via the main gate on Kingshighway and another unpaved road at the southwest corner of the property. Relatively new buildings immediately inside the Kingshighway gate, house the former offices of XTRA, the current site owner.

The Facility Area was historically used as a primary zinc smelter between 1916 and 1953 and produced slab

zinc, zinc carbonate, cadmium, lead, and sulfuric acid. The primary residue generated during the smelter's operation was slag which was poured along the northern and western boundary of the Facility Area in a molten state and allowed to cool over time. According to historical aerial photographs, the slag piles were located along the western and northern boundaries of the Facility Area and originally encompassed more than 15 acres. The vitrified slag was allegedly transported to areas outside the Facility Area by employees from the village, local business personnel, and area residents, for use as fill and surfacing material.

XTRA Intermodal, Inc. ('XTRA') leased the Facility Area property from American Zinc (now Blue Tee Corporation or 'Blue Tee') between 1976 and 1979 and purchased the property in 1979, including the clinker and other smelter residues, minerals or metals located on the property. From 1976 to sometime after 2003, XTRA operated a transport trucking terminal on the Facility Area which included the lease, storage, and maintenance of a diverse fleet of over-the-road trailers, intermodal ("piggy-back") trailers, and intermodal equipment. Beginning in 1976, XTRA ground and redistributed the stockpiled slag across the Facility Area to build up and level the Facility Area for its trucking operations.

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#### **1.1.2.1 Location**

The Old American Zinc (OAZ) site consists of two parts: a 132-acre industrial property located at 2575 Kingshighway in Fairmont City, St. Clair County, Illinois 62201; and an unknown number of residential and commercial/industrial properties surrounding the industrial property. Coordinates for the industrial property, as represented by the front gate on Kingshighway, are latitude 38° 39'06.9 north by longitude 90° 05'35.8" west. The elevated levels of metals are located in a mixture of residential and commercial properties located in Fairmont City. As additional remedial sampling occurs, properties in neighboring municipalities may be impacted.

#### **1.1.2.2 Description of Threat**

The threat is presented by the presence of lead, arsenic, cadmium, and zinc contaminated soil in residential yards, a park, and alleyways. EPA documented a release of hazardous substances, pollutants, or contaminants in the soil. Exposure may occur from direct ingestion of soil in yards, soil tracked indoors, or house dust; inhalation of fugitive dust; and ingestion of vegetables grown in contaminated soil. Potential human receptors include residents, including children under seven years of age and pregnant or nursing women; and construction and utility workers.

EPA documented the presence of lead and/or arsenic in soil at concentrations above the Removal Management Level (RML) for residential soil of 400 mg/kg for lead and 68 mg/kg for arsenic. Lead was detected at a maximum concentration of 32,500 mg/kg at a residential property and arsenic at 171 mg/kg at another. The Village of Fairmont City is next to the former Old American Zinc Plant facility. Both the IEP A and EPA have documented the presence of lead and/or arsenic in residential yards above health standards. The health concerns at this Site are related to the fact that residents live in and amongst the lead slag that was brought in as fill material on residential properties, thereby potentially exposing young children, pregnant women and elderly individuals to contamination. Exposure may occur from direct ingestion of soil in yards, soil tracked indoors, or house dust; inhalation of fugitive dust; and ingestion of vegetables grown in contaminated soil.

Lead is a hazardous substance, as defined by Section 101(14) of CERCLA. The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in

the body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production.

### 1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Initial investigations of the Site were conducted by Illinois Environmental Protection Agency (IEPA) in 1994 in response to citizen complaints of blowing dust from the Facility Area resulting from grinding of vitrified slag by XTRA for use as structural fill for its operations. An additional investigation was conducted by Ecology & Environment for EPA in 1999 that included the collection of soil and sediment samples from the Facility Area and adjacent residential properties. The sampling conducted by EPA and IEPA found heavy metals in Facility Area slag, soils, stream sediments, and adjacent residential properties at levels greater than background or risk-based screening levels.

On November 2 and 3, 1999, EPA also mobilized its Superfund Technical Assessment and Response Team (START) contractor to the Site. EPA tasked START to perform a site reconnaissance and sampling. Activities performed included:

- Collecting soil samples from the industrial property;
- Collecting sediment samples in Rose Creek; and
- Collecting soil samples from the residential properties where IEP A indicated elevated levels of heavy metals.

A summary of the soil and sediment analytical data indicate elevated levels of contaminants. Soil samples collected at various locations on flat ground on the industrial property had concentrations of total lead ranging from 4,646 milligrams per kilogram (mg/kg) to 23,110 mg/kg, and cadmium concentrations up to 7.45 mg/kg. Sediment had elevated total lead and cadmium at concentrations of 1,620 mg/kg and 3,440 mg/kg, respectively. The residential soil sample had a concentration of 815 mg/kg for lead. Based on these sampling events, EPA requested that PRP Blue Tee perform a time-critical removal action (TCRA) at the Site.

On July 21, 2000, EPA signed the initial Action Memorandum to conduct a time-critical removal action. An Administrative Settlement Agreement and Order on Consent (AOC) was entered into between PRP Blue Tee and EPA on March 22, 2002, to conduct a TCRA to address soils containing lead concentrations above the action level of 400 mg/kg for residential properties and 1,000 mg/kg for commercial/ industrial properties. The residential soil lead criterion (400 mg/kg) was derived using the Integrated Exposure Uptake BioKinetic (IEUBK) Model for Lead in Children and potential exposures to a resident child age 0 to 84 months over 365 days per year. Vacant lots were also sampled as part of the TCRA and a removal action was taken at vacant lots located adjacent to residential areas if the vacant lots had soil lead concentrations greater than 1,200 mg/kg. The 2002-2003 TCRA included the sampling of 462 residential, commercial/industrial and vacant properties for lead, arsenic, cadmium and zinc.

Of the 462 properties sampled during the TCRA, 209 properties were found to have soil lead concentrations in excess of the EPA approved action levels. Of these, soil removal actions were performed on 152 properties. The remaining 57 properties are composed of 49 vacant lots with soil lead concentrations less than 1,200 mg/kg, and eight residential properties where permission to conduct the removal action was not granted by the property owner. The excavated soils from the TCRA were placed in a temporary stockpile located on the north side of the Facility Area immediately south of the existing slag piles. The base of the 2-acre stockpile area was prepared by grading the footprint with a bulldozer and compacting it with a vibratory compactor. A 3-foot soil berm was installed around the perimeter of the stockpile area. Temporary silt fencing was placed on the outside of the berm to prevent soil and storm water migration from the stockpile during soil placement. The berm and silt fence were periodically inspected to ensure the integrity and effectiveness of the erosion and storm water controls. At the completion of the excavation activities, the stockpile was graded and seeded with a 2002 Class II Roadside grass mixture consisting of fescue and perennial rye grasses to prevent future erosion.

On June 6, 2005, PRPs Blue Tee and U.S. General Services Administration (GSA) entered into an AOC to conduct a Remedial Investigation and Feasibility Study (RI/FS) for the Site. EPA issued a Unilateral Administrative Order to PRP XTRA on June 6, 2005, directing XTRA to participate and cooperate with the PRPs performing the RI/FS under the AOC. An RI was conducted at the Site from May 2006 to January 2008. Additional off-site residential properties were sampled to conduct a Human Health Risk Assessment. A portion of the village alleyways were also sampled. Elevated concentrations of metals were found in the alleyways and residential properties. Based on the findings of the investigations, EPA issued a Record of Decision (ROD) on September 11, 2012. The major components of the selected remedy in the ROD include: excavation of contaminated soil on the Facility Area and at off-site properties, consolidation of excavated soil into an area on the facility property, capping the consolidated contaminated soil with a 24-inch low permeability, compacted soil barrier layer and a 12-inch vegetation cover system, institutional controls, and groundwater monitoring.

In 2014, EPA entered into an AOC with PRPs Blue Tee and GSA to do the remedial design (RD) of the remedy. In the 2015 pre-design investigation, additional data was collected on-site and at 14 adjacent residential, commercial, and vacant properties in order to complete the RD.

However, in March 2016, the company responsible for Blue Tee's work at the site filed for bankruptcy and stopped doing the work. On December 6, 2016, the EPA issued a notice to the responsible parties for EPA to take over the work in order to complete the RD at the Site. After EPA took over work in the RD, EPA found some data gaps, expanded the scope of the offsite residential sampling, and conducted additional sampling of residential properties and alleyways in July and August 2017. Several additional residential properties and alleyways were identified where the soil contained elevated levels of lead (defined greater than 1,200 mg/kg). Additional residential sampling was conducted starting March 2018 and will continue through June 2018. Maximum lead and arsenic concentrations found on some of these properties and alleyways in the top 2 feet.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

The high concentrations of lead and/or arsenic in soil constitute an imminent threat to human health as

documented above. Continued response actions were immediately required to mitigate exposure to nearby residents to hazardous substances through the soil pathway. The residential yards have high accessibility to sensitive populations, including young children under the age of 7 years and pregnant women. In fact, these sensitive populations and young children have been observed playing in the play fields and contaminated yards. Adults and children may be exposed to high levels of lead from normal foot traffic, yard work, and play. The response actions will prevent, limit, and mitigate threats to human health including sensitive populations. Impacted soils will be removed and consolidated into an on-site soil repository at the former Old American Zinc facility.

## 2.1.2 Response Actions to Date

The OSC tasked the ERRS (ER, LLC) and START (Tetra Tech) contractors to perform the following actions with important project benchmarks of:

- Develop and implement a Removal Action Work Plan (RAWP);
- Develop and implement an Emergency Contingency Plan (ECP);
- Develop and implement a Site Health & Safety Plan (HASP) consistent with the work to be performed;
- Develop and implemented an Air Monitoring Plan (AMP);
- As related to the AMP, START has developed and implemented a particulate air monitoring system with real-time dust particulate monitoring (DustTrak) using the Emergency Response Team VIPER System;
- On June 04, OSC Turner notified the Illinois State Archeological Survey (ISAS) that removal of heavy metals contaminated soil near the Cahokia Mounds State Historic Site;
- As a result to the ISAS notification, the OSC has instructed ERRS and START as to shut-down procedures related to discovery of pottery pieces, arrowheads, bones, etc;
- On June 11, 2018, removal work at the first residential property began. The OSC will utilize an interpreter for Spanish only speaking homeowners;
- On June 12, 2018, the ERRS contractor arranged for diesel powered electrical service be provided to support project needs inside the temporary field office.
- On June 13, 2018, arrangements were made to deliver limestone rock, sand and clean fill dirt materials to be used for backfilling restoration purposes;
- On June 18, 2018, a second ERRS excavation crew was added to daily operations;
- On June 21, 2018, OSC Turner secured alley access approval from Fairmont City officials related to removal of impacted soils
- On July 16, 2018, a second restoration crew was added to restore residential properties in a manner that subjects the homeowners to the least amount of inconvenience.
- On July 23, 2018, a 3<sup>rd</sup> excavation crew was added to address removal work related to impacted alleyways.

## 2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Enforcement actions are pending at this time.

## 2.1.4 Progress Metrics

The following summary indicates on-site repository disposal summary and the number of homes that have been remediated in 2018:

	Property Address	Prop. ID No.	Ex. Started	Ex. Complete	Backfill Start	Backfill Complete	Excavate Cubic Yards	Backfill Cubic Yards	Hydro Seed Complete
1	593X Collinsville Road	392	6/11/2018	6/13/2018	6/13/2018	6/18/2018	282	336	7/20/2018
2	261X N 35 <sup>th</sup>	135	6/14/2018	6/18/2018	6/18/2018	6/19/2018	150	78	7/23/2018
3	255X N 43 <sup>rd</sup>	814	6/18/2018	6/19/2018	6/20/2018	6/21/2018	96	90	7/23/2018
4	371X Collinsville Road	329	6/18/2018	6/20/2018	6/20/2018	7/2/2018	192	258	7/23/2018
5	251X N 36 <sup>th</sup>	74	6/19/2018	6/20/2018	6/20/2018	6/21/2018	48	36	7/20/2018
6	254X N 36 <sup>th</sup>	120	6/22/2018	6/28/2018	6/29/2018	7/9/2018	126	72	7/23/2018
7	253X N 36 <sup>th</sup>	101	6/22/2018	6/27/2018	6/28/2018	7/3/2018	120	114	7/20/2018
8	251X N 32 <sup>nd</sup>	81	6/27/2018	6/29/2018	7/2/2018	7/10/2018	150	156	7/23/2018
9	2541 N 36 <sup>th</sup>	112	6/28/2018	7/9/2018	7/3/2018	7/12/2018	174	168	7/23/2018

10	270X N 37 <sup>th</sup>	141	7/9/2018	7/10/2018	7/12/2018	7/13/2018	96	78	7/23/2018
11	253X & 253X N 36 <sup>th</sup>	575	7/10/2018	7/13/2018	7/17/2018	7/19/2018	216	222	7/23/2018
12	361X Maple	859	7/10/2018	7/11/2018	7/16/2018	7/16/18	48	48	7/20/2018
13	254X N 36 <sup>th</sup>	113	7/16/2018	7/23/2018	7/19/2018				
14	361X Maple	326	7/13/2018	7/23/2018	7/18/2018				
15	361X Maple	327	7/11/2018	7/12/2018	7/17/2018	7/18/2018	156		7/23/2018

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

Site work in 2018 will remove heavy metals impacted soils from 60-plus residential properties, restore with clean soil and re-establish with hydro-seed protective grass cover.

#### 2.2.1.1 Planned Response Activities

No additional response actions are planned beyond removal and restoration of heavy metal impacted soils.

#### 2.2.1.2 Next Steps

The OSC and RPM continue to meet with Fairmount City officials discussing potential cleanup of city owned property and alleyways.

### 2.2.2 Issues

Wet weather has impacted hydro-seeding restoration activities and may ultimately impact site work and the overall project schedule.

## 2.3 Logistics Section

Not Applicable (NA)

## 2.4 Finance Section

### 2.4.1 Narrative

A TDD for \$200,000 was issued to Tetra Tech Inc., on 5/24/2018.  
The current START project budget is: \$200,000.00.  
As of 7/23/2018, START costs to date are \$66,806.

A Task Order (TO) for \$1,500,000.00 was issued to Environmental Restoration, LLC, on May 22, 2018.  
ER, LLC cost to date are \$357,808.00

### Estimated Costs \*

	Budgeted	Total To Date	Remaining	% Remaining
<b>Extramural Costs</b>				
ERRS - Cleanup Contractor	\$1,500,000.00	\$357,808.00	\$1,142,192.00	76.15%
TAT/START	\$200,000.00	\$66,806.00	\$133,194.00	66.60%
<b>Intramural Costs</b>				
<b>Total Site Costs</b>	\$1,700,000.00	\$424,614.00	\$1,275,386.00	75.02%

\* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

## 2.5 Other Command Staff

### 2.5.1 Safety Officer

All field work was conducted under an approved Health and Safety Plan (HASP).

#### 2.5.2 Liaison Officer

NA

#### 2.5.3 Information Officer

NA

### 3. Participating Entities

#### 3.1 Unified Command

NA

#### 3.2 Cooperating Agencies

Illinois EPA

### 4. Personnel On Site

USEPA	2
START	2
ERRS	20

### 5. Definition of Terms

AMP	Air Monitoring Plan
BTEX	Benzene, toluene, ethyl benzene, xylenes
ECP	Emergency Contingency Plan
EPA	Environmental Protection Agency
ER, LLC	Environmental Restoration, LLC
ERRS	Emergency and Rapid Response Services
FPN	Federal Project Number
HASP	Health and Safety Plan
Haz-Cat	Hazardous Categorization
IEPA	Illinois Environmental Protection Agency
NA	Not Applicable
NESHAPS	National Emission Standards for Hazardous Air Pollution (asbestos)
NPDES	National Pollution Discharge Elimination System
OSC	On-Scene Coordinator
PCBs	Polychlorinated Biphenyls
POLREP	Pollution Report
PRP	Potentially Responsible Party
RP	Respondent
RAWP	Removal Action Work Plan
SAP	Sampling and Analysis Plan
SITREP	Situation Report
START	Superfund Technical Assessment and Response Team (Tetra Tech)
TDD	Technical Directive Document
TO	Task Order
UST	Underground Storage Tank
USEPA	United States Environmental Protection Agency

### 6. Additional sources of information

No information available at this time.

### 7. Situational Reference Materials

No information available at this time.









